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## Introduction

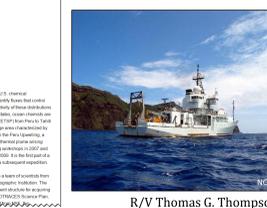
The U.S. GEOTRACES program seeks to identify processes controlling the distribution of trace elements and isotopes in the world's oceans. Quantifying marine trace elements and understanding their role in biogeochemical cycles is important for predicting the ocean's response to environmental changes, such as a changing climate and the release of elements into the ocean due to human activities. This research program is collaborative in nature and only one component within the broader International GEOTRACES program. An important part of the collaborative scientific process is having access to trustworthy, well-documented data from colleagues. The Biological and Chemical Oceanography Data Management Office (BCO-DMO) serves as the U.S. GEOTRACES Data Assembly Center, and facilitates the management, sharing, and long-term preservation of trace element and isotope data not only from U.S. GEOTRACES researchers, but from NSF-funded marine biogeochemists across the United States. The BCO-DMO data managers work closely with investigators contributing their data to ensure quality and completeness of documentation to foster data discovery and re-use by potential collaborators. The BCO-DMO system provides free and open access to data and tools for discovery, mapping, visualization, and download. Trace element and isotope datasets from the recent U.S. GEOTRACES North Atlantic Transect and Eastern Pacific Zonal Transect cruises, as well as other GEOTRACES-related projects are freely available from BCO-DMO. Related data from legacy programs, including the U.S. Joint Global Ocean Flux Study (JGOFS), are also available for use by investigators seeking to further the understanding of trace metal cycling in the oceans.

## Trace Metal Data Available from BCO-DMO

More than 100 datasets are available from 9 U.S. GEOTRACES and GEOTRACES-related cruises.



The map above shows the 9 U.S. GEOTRACES cruises, including CoFeMUG and the GEOTRACES intercalibration cruises. Dots represent sampling stations.



Trace metal data are also available from numerous projects, including the legacy U.S. Joint Global Ocean Flux Study (JGOFS) program.

## Data Management Process

Data are collected, processed, & analyzed



Data are contributed to BCO-DMO

BCO-DMO metadata page (left) and online view of the dataset (below). Data can be viewed online and downloaded in various formats.

Data are freely available and discoverable through text and geospatial interfaces

Dissolved Pb dataset contributed by E. Boyle.

GEOTRACES data are transferred to the International GEOTRACES Data Assembly Center at BODC

Products such as the IDP2014 and forthcoming IDP2017 integrate data from researchers around the globe.

U.S. data are submitted to NCEI for long-term preservation.



BCO-DMO can accommodate a variety of data types, including those collected from instruments deployed at sea from research vessels, moored instruments, laboratory and field experiments, and model output.

BCO-DMO data managers work with contributing investigators, ensuring quality and completeness of data and metadata.

